

L122,049



## PATENT SPECIFICATION

DRAWINGS ATTACHED

L122,049

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## COMPLETE SPECIFICATION

## Simulated Animal-Bone and method of making thereof

We, SUPERIOR PET PRODUCTS, INC., of Curwensville, Pennsylvania, United States of America, a Corporation organized and subsisting under the Laws of the Commonwealth of Massachusetts, United States of America, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to improvements in simulated animal bones and the method of making the same, and in particular to such bones and the methods of making them where the constituent material is an untanned rawhide suitable for use by animals such as dogs as a toy or food.

There are available on the market today simulated or artificial bones for dog owners to buy for their dogs, the bones having somewhat the shape of a natural bone, and being made of material such as a prepared rawhide which is suitable for consumption by the dogs. In many ways, these bones presently available are satisfactory, but in other ways they leave several things to be desired. For example in some instances the finished product as sold can be improved as to the simulation or imitation of the shape of a natural animal bone. In still other cases, the method of preparing the final shape of the bone is more expensive than need be.

In general, then, this invention is concerned with producing an improved simulated animal bone which has a pleasing colour and appearance acceptable to a prospective purchaser, is suitable as a dog food or plaything, and which closely resembles a natural bone in appearance, shape and hardness.

According to the invention there is provided a simulated animal bone comprising an elongated plural layered form constituted of sheet rawhide with the layers of the form lying about a generally common axis, at least one end por-

tion of the bone having more layers than the central portion by virtue of at least one turned-in outer edge portion of the sheet, said end portion thereby being thicker than said central portion.

Among the several advantages which may be achieved by at least some embodiments of the invention are the following: the provision of a simulated animal bone having an appearance approaching that of a natural bone; the provision of simple and economical methods of forming the constituent material into a configuration which, when dry, will simulate a natural bone closely; the provision of methods of forming the bone which are adapted to rapid production; the provision of an improved simulated animal bone which is edible as animal food; and the provision of a simple and economical method of forming the rawhide into the shape of a natural bone, without the necessity of tying any knots therein, or of performing any slitting operations after the material is shaped into the desired form.

In the accompanying drawings, in which are shown a representative final article embodiment of the invention, and which illustrate two methods to obtain the desired shape of the finished article:

Figure 1 is a plan view of a sheet of the material of the invention from which a dog bone of the invention is to be formed by folding and wrapping, dotted lines on the view indicating where the folds are to be made;

Figure 2 is a plan view of sheet of Figure 1 showing the piece of Figure 1 after preliminary folds have been made on the indicated fold lines;

Figure 3 is an illustration showing one view of the simulated animal bones of this invention in its final appearance after the folded piece of Figure 2 has been wrapped on itself;

Figure 4 is another view of the Figure 3 final simulated animal bone;

Figure 5 is a view of a second embodiment

of the invention, showing a differently shaped piece from which the simulated animal bone may be formed; and

Figure 6 is a plan view of the sheet of Figure 5 showing the piece of Figure 5 after preliminary folds have been made on the indicated fold lines.

Referring to Figures 1 to 3 for one method of forming a simulated bone and the product thereof from a sheet of bleached undried rawhide, from which while still in a supply undried state, rectangular pieces are cut. The size of these is dependent on the wanted size of bone. As an example, for a finished bone which will be approximately six inches long, about one inch in diameter at the centre, with knuckle ends approximately one to two inches in thickness, the starting size of the rectangular piece can be approximately ten inches along the long edges and six inches along the short edges. For the above indicated final size, the rawhide can be approximately  $3/16$  to  $1/4$  inch in thickness. (It is emphasized that these figures are only approximate, since the final size will depend to some extent on the tightness of final rolling or folding).

Referring to Fig. 1, there is shown a plan view of a rectangular piece 2 of bleached rawhide with initial fold lines being indicated by dotted lines. It will be noted that there are two lines indicated by numerals 4 and 6, one being at each of the upper corners of the rectangular sheet. Another pair of fold lines is indicated by numerals 8 and 10 at the bottom two corners of the sheet. It will also be noted that fold line 8 crosses over line 4, and fold line 10 crosses over line 6.

The corner portions of the sheet are folded inwardly of the sheet along the indicated dotted lines, until the corner portions lie against the sheet body. Because of the crossing of the fold lines as stated above, it will be noted that at two places 12 (see Fig. 2) on the thus folded piece, there will be four layers of rawhide. Inwardly of places 12, at the places indicated by numeral 14, there will be three layers of folded material. Still further inwardly at places indicated by numeral 16, there will be two layers of material, and finally at the areas indicated by numeral 18 there will be a single layer.

The next step in the forming is to wrap or roll the material upon itself in the direction indicated by the arrow in Fig. 2 to make a generally elongated structure as shown in Fig. 3. As a result of this wrapping, it will be found that the thus formed final structure has varying thickness from each end to the middle thereof, and thus it is to be noted that in the final simulated bone (Figs. 3 and 4) the cross-section progresses from a relatively small centre section to relatively thick end sections, the thick end sections simulating the knuckle ends of a natural bone. (If desired, but not necessary, the sections 12 can be further folded in-

wardly to produce an even thicker "knuckle" end).

It has been found that the above method of folding and wrapping has produced the best simulation of a natural bone. Of course, other starting configurations of the piece of rawhide can be used, and reference to Figs. 5 and 6 will show another method of forming a simulated animal bone. In this instance, the starting piece 20 is made in oval shape as shown in Fig. 5, and the extremities 22 are folded inwardly along the fold lines 24 (indicated by the dotted lines) to lie against the sheet body. Having made these folds (as shown in Fig. 6) then again the wrapping operation is done as before, in the direction indicated by the arrow on Fig. 6. The end result will be approximately that shown in Figs. 3 and 4, but in this instance, the simulated bone product has a more abrupt transition from the thickened ends to the shank of the bone than is shown in the finished product of Figs. 3 and 4.

It is apparent that other configurations or starting pieces can be used in order to obtain the thick knuckle ends and the relatively small-diameter centre section by folding and wrapping operations, these configurations suggesting themselves to the person who is making the end product. The key to the invention is the use of a greater number of layers at what eventually will constitute the ends of the bones, as compared to a lesser number of layers as one progresses along the length of the bone from a knuckle end to the centre. It will also be noted that the thickened knuckle ends are obtained without the necessity of trying to tie knots in a relatively slippery piece of rawhide, and without the necessity of cutting slits in the wrapped piece through which ends of the folded rawhide must be inserted in order to provide the thickened end. Thus, the folding and wrapping operations lead to economy in manufacture because of their essential simplicity and ease of production.

After the material has been wrapped upon itself into the shape shown in Figs. 3 and 4, the structure is then dried, preferably in forced air, at a temperature which should not exceed  $120^{\circ}\text{F}$ . for most economical manufacture.

It has been found that the wrapped rawhide forms will keep their shape during drying if the temperature of the air is kept below  $120^{\circ}\text{F}$ . If it is desired to dry the wrapped piece faster, a higher temperature can be used, but this may necessitate the use of some means of holding the material together during the drying operation.

In view of the above it will be seen that the several objects of the invention are achieved and other advantageous results attained.

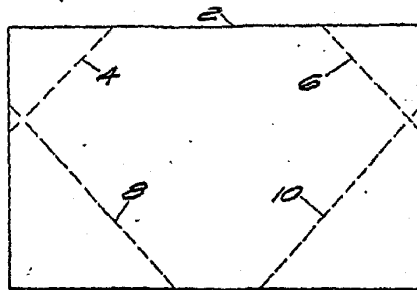
#### WHAT WE CLAIM IS:—

1. A simulated animal bone comprising an elongated plural-layered form constituted of sheet rawhide with the layers of the form lying

- about a generally common axis, at least one end portion of the bone having more layers than the central portion by virtue of at least one turned-in outer edge portion of the sheet, said end portion thereby being thicker than said central portion.
- 5 2. The bone of claim 1 in which the rawhide is in a bleached state.
3. The bone of claim 1 or claim 2 in which the shape of the sheet of rawhide from which the bone is formed is polygonal.
- 10 4. The bone of claim 1 or claim 2 in which the shape of the sheet of rawhide from which the bone is formed is curvilinear.
- 15 5. The bone of claim 1 in which the layers of said end portion also include turned-in corners of the rawhide sheet.
6. A simulated animal bone comprising a plural-layered roll of sheet rawhide with the layers of the roll lying about a generally common axis, the roll having a central portion, end portions and intermediate portions between the central and end portions, the number of layers in the end, intermediate and central portions being in decreasing magnitude from the end portions to the central portion by virtue of at least two turned-in outer edge portions of the sheet, whereby the thickness of the bone decreases progressively from the end portions to the central portion.
- 20 7. The method of making a simulated animal bone from a sheet of rawhide comprising the steps of:
- 35 folding at least one edge portion of the sheet inwardly to lie against the body of the sheet and provide a structure having a plurality of layers along an edge thereof adjacent a portion of the sheet having a lesser number of layers.
- 40 wrapping said structure upon itself to form an elongated plural-layered form with the edge portion of the structure creating a plural-layered end of the form thicker than portions of the form adjacent said end; and
- 45 drying the form to hardness.
8. The method of claim 7 in which said sheet is polygonal in shape.
9. The method of claim 8 in which said sheet is rectangular in shape.
- 50 10. The method of claim 7 in which said sheet is curvilinear in shape.
11. The method of making a simulated animal bone from a rectangular-shaped sheet of rawhide having top and bottom corners comprising the steps of:
- 55 Folding a first corner of the sheet inwardly thereof toward the centre of the sheet:
- folding a second corner of the sheet inwardly thereof toward the centre of the sheet, said second corner being from the same edge as said first corner;
- 60 wrapping the sheet, as thus folded, upon itself in a direction parallel to the edge of the sheet from which said corners are folded to form an elongated plural-layered form with the folded corners creating a plural-layered end of the form thicker than portions of the form adjacent said end; and
- 65 drying the form to hardness.
12. The method of claim 11 in which one of the folds of said corners includes a portion of the fold of the other of said corners, thereby to increase the thickness of the end of the form.
- 70 13. The method of claim 11 including the step of folding the other pair of corners in the same manner as are folded the said first and second corners prior to said wrapping.
14. The method of making a simulated animal bone from a sheet of rawhide comprising the steps of:
- 75 folding opposite extremities of the sheet inwardly thereof to lie against the body of the sheet and provide plural layers at marginal portions of the body with the portion of the body therebetween having a lesser number of layers;
- 80 wrapping the thus-folded body on itself transversely of the direction of folding to form a plural-layered form with said plural-layered marginal portions creating plural-layered ends thicker than the central portion of the form; and
- 85 drying the form to hardness.
15. A simulated animal bone substantially as described with reference to Figures 1 to 4 or Figures 5 and 6 of the accompanying drawings.
- 90 16. A method of making a simulated animal bone substantially as described with reference to the accompanying drawings.
- 95 100

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Fig. 1



22.

Fig. 2

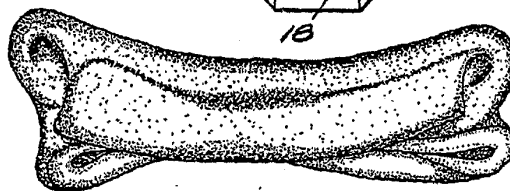
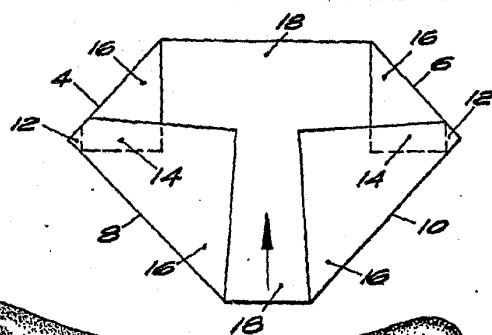


Fig. 3

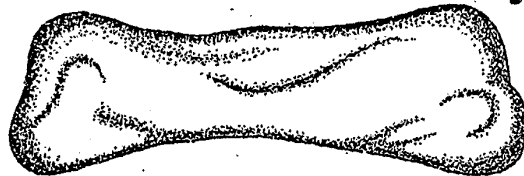


Fig. 4

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COMPLETE SPECIFICATION

2 SHEETS

This drawing is a reproduction  
the Original on a reduced scale  
Sheets 1 & 2

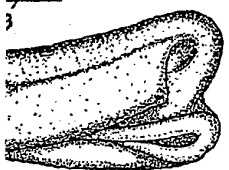
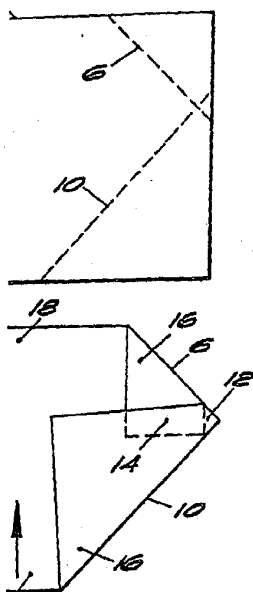


Fig. 3

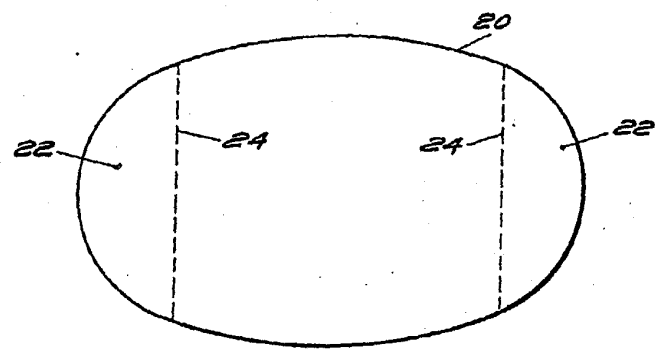


Fig. 5

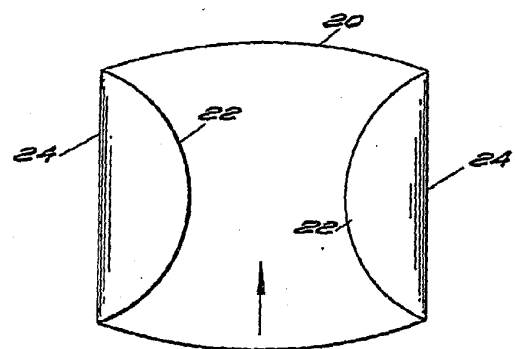


Fig. 6

POOR QUALITY

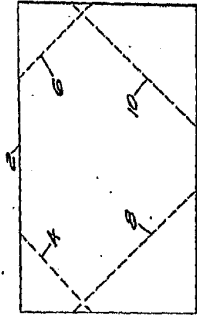


Fig. 1

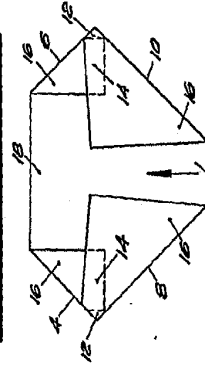


Fig. 2

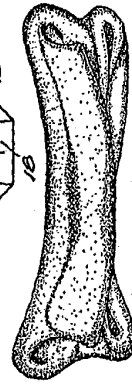


Fig. 3



Fig. 4

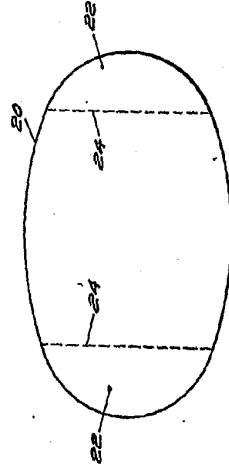


Fig. 5

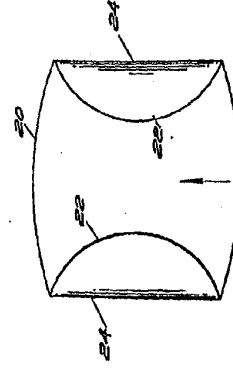


Fig. 6